

IN THE CLAIMS:

Claim 1 (currently amended): An apparatus for coating a substrate, the apparatus comprising:

a coating source for processing the substrate;

a sensor arrangement that generates a sensor signal at an output that is related to ~~an a the~~ actual status of the coating process, the sensor arrangement comprising one of: at least two sensors spaced from each other along a direction perpendicular to a direction of movement of the substrate for substantially simultaneously measuring the thickness of a coating on the substrate at different positions that are substantially perpendicular to the movement direction of the substrate to form the sensor signal; and at least one sensor for sequentially measuring the thickness of the coating at two different locations in the movement direction of the substrate for generating the sensor signal; and

means for generating a control signal related to the sensor signal for modifying at least one operating parameter of the coating source during the processing of the substrate, wherein the sensor signal does not reflect the at least one operating parameter.

Claim 2 (currently amended): A method for processing a substrate, the method comprising:

processing the substrate in a treatment area of a treatment source substantially according to a predetermined scheme comprising a set of parameters;

selecting a subset of said set with at least one parameter as control parameter(s) and at least one further parameter not comprised in said subset as operating parameter(s), said control parameter(s) comprising measurements taken at two different locations on the

substrate;

determining a deviation of the subset from the predetermined scheme;
generating a control signal in response to the determined deviation; and
modifying the at least one operating parameter(s) in response to the control signal
to compensate for an effect of the deviation from the predetermined scheme.

Claim 3 (new): The apparatus of Claim 1 wherein the sensor arrangement comprises the at least two sensors spaced along the perpendicular direction to the movement direction of the substrate.

Claim 4 (new): The method of Claim 2 including taking the different measurements at locations on the substrate which are spaced from each other in a direction perpendicular to a movement direction of the substrate, the measurements being thickness measurements.

Claim 5 (new): The method of Claim 2 including taking the measurements at spaced locations on the substrate in the movement direction of the substrate, the measurements being thickness measurements.